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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Joseph M. Jacobson

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EXAMINER

XIAO, KE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/817,464	Applicant(s) JACOBSON ET AL.	
	Examiner Ke Xiao	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-60 is/are pending in the application.
- 4a) Of the above claim(s) 59 and 60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-54 and 56-58 is/are rejected.
- 7) ☒ Claim(s) 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding **Claim 29**, the term "not colored" is not consistent with the definition as set forth in the specification. In claim 26, from which claim 29 depends, "color" is clearly defined as including black and white, therefore the term "not colored" can only mean not reflecting any color at all which is transparency, which is contradictory to the applicant's specification.

For the purposes of prior art rejection the claim will be interpreted as "white or black colored".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 26-28, 30-34, 36, 37, 40-54 and 58 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Gordon (US 5,872,552).

Regarding **Claim 26**, Gordon teaches a color electrophoretic display (Gordon, Figs. 1 and 5 a display with a plurality of electrophoretic cells) comprising:

a display element disposed adjacent a reflective surface comprising a first color (Gordon, Figs. 1 and 5 and abstract), the display element comprising an electrophoretic particle of a second color (Gordon, Fig. 3 Col. 1 lines 25-48), the display element switching between the first color and a third color when an electric field is applied, wherein at least one of the first, second and third colors is neither black nor white (Gordon, Fig. 3 particles are neither black nor white Col. 2 line 40-Col. 3 line 15).

Regarding **Claim 27**, Gordon further teaches that the second color is substantially the same as the third color (Gordon, Figs. 1 and 2 switching between the color of the reflective surface or the color the particles).

Regarding **Claim 28**, Gordon further teaches the reflective surface comprises a substrate (Gordon, Figs. 1 and 5 element 4 and Col. 4 lines 43-53).

Regarding **Claim 30**, Gordon further teaches wherein the reflective surface comprises an electrode (Gordon Fig. 1 white colored aluminum back plate).

Regarding **Claim 31**, Gordon further teaches wherein the electrode is printed on a substrate (Gordon, Fig. 5 counter electrode 42 is printed on the substrate).

Regarding **Claim 32**, Gordon further teaches wherein the reflective surface further comprises a first electrode and a second electrode (Gordon, Fig. 5 counter 42 and collecting electrodes 40 are both attached to the reflective surface).

Regarding **Claim 33**, Gordon further teaches wherein the second electrode address a smaller amount of surface area of the display element than the first electrode does (Gordon, Figs. 1 and 5 clearly the collecting electrode addresses a *much* smaller area which is less than half of the counter electrode).

Regarding **Claim 34**, Gordon further teaches wherein the second electrode addresses no more than half of the surface area than the first electrode does (Gordon, Figs. 1 and 5 clearly the collecting electrode addresses a *much* smaller area which is less than half of the counter electrode).

Regarding **Claim 36**, Gordon further teaches that the first and second electrodes are disposed on one side of the display element (Gordon, Figs. 1 and 5 collecting electrode is disposed opposite the viewing side).

Regarding **Claim 37**, Gordon further teaches that the first and second electrodes are disposed on a rear side of the display element opposite a viewing side (Gordon, Figs. 1 and 5 collecting electrode is disposed opposite the viewing side).

Regarding **Claim 40**, Gordon further teaches wherein the display element being a first display element disposed adjacent a first reflective surface, the electrophoretic particle being a first electrophoretic particle, and the electric field being a first electric

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field, the color electrophoretic display further comprising a second display element disposed adjacent a second reflective surface and comprising a second electrophoretic particle, the second display element switching between a fourth color and a fifth color when a second electric field is applied, the fourth color being different from both the first and third color (Gordon, Col. 2 lines 24-41, plurality of cells are taught all of which are adjacent and structurally the same except for the color of the particles).

Regarding **Claim 41**, Gordon further teaches that the fifth color is substantially the same as the first or the third color (Gordon, Col. 2 lines 24-41, all the cells share a substrate so the fifth color would also be white or black).

Regarding **Claim 42**, Gordon further teaches that at least part of the first reflective surface is integrated with the at least part of the second reflective surface (Gordon, Col. 2 lines 24-41, all cells are adjacent and formed on the same substrate).

Regarding **Claim 43**, Gordon further teaches that the second reflective surface comprises a colored substrate (Gordon, Col. 2 lines 24-41, second reflective surface is also black or white).

Regarding **Claim 44**, Gordon further teaches wherein the second reflective surface comprises a colored electrode (Gordon Fig. 1 white colored aluminum back plate).

Regarding **Claim 45**, Gordon further teaches that the second reflective surface further comprises a first electrode and a second electrode (Gordon, Figs. 1 and 5 counter plate/counter electrode and collecting electrode Col. 2 lines 24-41, plurality of

cells are taught all of which are adjacent and structurally the same except for the color of the particles).

Regarding **Claim 46**, Gordon further teaches that the first electrode is substantially of the fourth color (Gordon Fig. 1 white colored aluminum back plate).

Regarding **Claim 47**, Gordon further teaches a third electrophoretic element disposed adjacent a third reflective surface and comprising a third electrophoretic particle, the third display element switching between a sixth color and a seventh color when a third electric field is applied (Gordon teaches a plurality of cells Col. 2 lines 24-41 all identical except for the color of the particles).

Regarding **Claim 48**, Gordon further teaches wherein the third reflective surface comprises a colored electrode (Gordon Fig. 1 white colored aluminum back plate).

Regarding **Claim 49-51**, Gordon further teaches that the display is capable of displaying a full color spectrum including red, green, blue, yellow, cyan and magenta (Gordon, Col. 2 line 40 to Col. 3 line 15).

Regarding **Claim 52**, Gordon teaches a color electrophoretic display comprising:
a first reflective surface comprising a first color (Gordon, Figs. 1 and 5 reflective surface white or black);

a first display element comprising a plurality of first species of electrophoretic particles of a second color (Gordon, Figs. 1 and 5 Col. 2 line 40 to Col. 3 line 15), the first reflective surface disposed adjacent a rear side of the first display element opposite its viewing side (Gordon, Col. 4 lines 43-54), the first element displaying the first color when the first reflective surface is substantially visible and displaying the second color

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when the first reflective surface is substantially obscured by the first species of particles (Gordon, Figs. 1, 2 and 5);

(Gordon, Col. 2 lines 24-35 a plurality of cells are taught all of them having the same physical structure except for the color of the particles)

a second reflective surface comprising a third color;

a second display element comprising a plurality of second species of electrophoretic particles of a fourth color, the second reflective surface disposed adjacent a rear side of the second display element opposite its viewing side, the second element displaying the third color when the second reflective surface is substantially visible and displaying the fourth color when the second reflective surface is substantially obscured by the second species of particles;

a third reflective surface comprising a fifth color; and

a third display element comprising a plurality of third species of electrophoretic particles of a sixth color, the third reflective surface disposed adjacent a rear side of the third display element opposite its viewing side, the third element displaying the fifth color when the third reflective surface is substantially visible and displaying the sixth color when the third reflective surface is substantially obscured by the third species of particles.

Regarding **Claim 53**, Gordon further teaches that the first reflective surface comprises a colored substrate (Gordon, Col. 3 lines 50-60 white or black surface).

Regarding **Claim 54**, Gordon further teaches wherein the first reflective surface comprises a colored electrode (Gordon Fig. 1 white colored aluminum back plate).

Regarding **Claim 58**, Gordon further teaches that the second, fourth and sixth colors are black or white (Gordon, Col. 2 line 52 carbon black).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29, 38, 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (US 5,872,552) in view of Sheridan (US 5,767,826).

Regarding **Claim 29**, Gordon further teaches that the reflective surface comprises a substrate that is white colored, but fails to teach a color filter. Sheridan clearly teaches a color filtered substrate using in a reflective display system (Sheridon, Figs. 12F). It would have been obvious to one of ordinary skill in the art at the time of the invention to add color filters to the white substrates of Gordon in order to achieve improved color quality.

Regarding **Claims 38, 56 and 57**, Gordon teaches that the first color is white or black but fails to teach that the first color is red, green, blue, cyan, yellow or magenta as claimed. Sheridan teaches a substrate for a reflective display where the substrate red green and blue or cyan yellow or magenta (Sheridon, Fig. 12F, Col. 34 lines 45-63 although Sheridan only teaches using RGB reflective surfaces it is noted that CYMK is another color source that can readily replace the additive colors to form a subtractive

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color gyricon display). It would have been obvious to one of ordinary skill in the art at the time of the invention to add color filters to the white substrates of Gordon in order to achieve improved color quality.

Claims 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (5,872,552).

Regarding **Claim 35**, Gordon fails to teach the color of the second electrode. However Gordon teaches that a first electrode can be a white color, and states that the electrode can be made to be a white color (Gordon, Fig. 1 element 4 Col. 3 lines 50-60). It would have been obvious to make the collecting electrode a white color as well in order to achieve a greater uniformity in the display because all back plane electrodes would then be the same color.

Regarding **Claim 39**, Gordon fails to teach that the display element further comprises a second electrophoretic particle as claimed. Evans teaches a display element that has first and second electrophoretic particles, where the first and second particles have colors that are different from each other (Evans, Figs. 2b and 2c positive and negatively charge particles are blue and yellow respectively). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the second colored particle as taught by Evans to the display cells of Gordon in order to achieve better color reproduction.

Allowable Subject Matter

Claim 55, in addition to the limitations of claims 52 and 53 from which it depends, is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Statement of reasons for the indication of allowable subject matter:

Regarding **Claim 55**, prior art fails to teach a color electrophoretic display with a single display element (Claim 52) that has two electrodes where the two electrodes are a first and second color and wherein the second color is also the color of the particles of the cell as claimed (Claim 55).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571)272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/

Supervisory Patent Examiner, Art Unit 2629

/Ke Xiao/

Examiner, Art Unit 2629